)(custom line style WA). The high water line within the limits of the situation plan shall be designated by a dash and dot (□·) symbol and obscured contours shall be shown as a broken line (— — —).

In this case, obscured contours are those that pass under a bridge or structure and are not visible when viewed in plan. No contour shall cross itself or another contour and no contour shall fork or split. The elevation and description on the benchmarks on which the bridge situation is based must be shown. The datum of the benchmarks should always be given whether it is that of the NGVD 29, NAVD 88, or assumed. The agency (N.G.S., U.S.G.S., VDOT or other) should also be noted. Most importantly, assumed vertical datum should be noted as such. **In all cases the elevation for bridge surveys must be referred to the datum used for the roadway survey.**

When the stream is of sufficient width and depth to prevent contours from being readily secured across its bed, three (3) profiles shall be taken across the stream, one on the centerline and one on each side of and parallel to the proposed location. These locations can be noted or written directly on the contour section of the plan.

Centerline profile - The profile must, in all cases, extend along the existing roadway to cover and define the high water spread area and, where practical, to cover an area at least two feet **(2 ft)** above high water. Where there is a nearby existing structure, the clear water way opening as well as the entire length of approach roadway inundated at high water must be defined by running levels and plotting a profile to delineate this area.

The profile on centerline shall be plotted to a scale of one inch equals ten feet (1”=10’) both vertically and horizontally.

The Materials Division will secure foundation determinations. The elevation of normal water, low water and extreme high water should be plotted with the profile. The month and year of high water and the name of the individual furnishing the information must be noted on the situation plan. High water data is of great importance in the hydraulic analysis. The Survey Party Manager should verify that the instructions in **Section 7.05** were followed in the acquisition and presentation of this data. Where tidal streams are encountered, the elevation of normal low tide, normal high tide, extreme low tide and extreme high tide should be determined. The month and year of extreme high tide and the name of the individual furnishing information must also be shown.

Edge of shoulder profiles (Option 2) - Profiles shall be plotted from DTM data. These cross-sections shall be secured to cover the edge of shoulder left and right of the roadway centerline. For an existing structure these readings shall be located along the outer faces of the structure. For a proposed structure on new location these readings shall be located along the anticipated outer faces of the structure as supplied by the bridge design unit or 15 feet ± from the roadway centerline.

The length of the area cross-sectioned shall conform to the instructions, as described in the preceding subsection for the extent of contour coverage along the centerline. Where these cross-sections encounter an existing approach roadway embankment, readings shall be taken along the edge of shoulder and along the toe of the embankment.